

Key - Unit 4 Test Review Worksheet

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1. noncoding dna (junk dna)
2. dna is individual evidence, points to a specific person
3. many times, in the millions
4. RFLP - restriction fragment length polymorphism, 15 - 35 bases long that repeats many times
STR - short tandem repeats, dna fragment made up of 3-7 bases long that repeats less than 450 x's.
more accurate → STR
used more today → STR
5. see #4
6. PCR - used to duplicate or copy dna strands millions of times
7.

G A T T A C A	G pairs w/ C
C T A A T G T	A pairs w/ T
8. Forensic scientists can use tiny dna samples, even if it is partially degraded
9. restriction enzymes - are used in PCR to cut dna into segments
10. gel electrophoresis - creates a dna fingerprint by using an electrical charge to move dna fragments across a gel plate. smaller dna fragments move farther than larger ones. The dna fragments are then exposed to radiation & then to an xray film where the radioactive fragments create an image on the xray film.

11. CODIS - combined dna Index System - federally run database of dna fingerprints of people suspected of and convicted of crimes.

12. paternity - 50% dna match
identity - 100% dna match

13. There are 4 main blood types: A, B, AB, & O.
Each type can be Rh+ or Rh-

14. Forensic scientists do blood typing before dna typing to narrow down the search parameters of a victim or perpetrator. dna testing is more expensive than blood testing so reducing the # of people needing to be tested is financially responsible.

15. blood type is class evidence

16. B+

17. O-

18. The B+ blood mixing with A+ blood causes agglutination or cumping of the blood, which is deadly.

19. O

- 20. a. gunshot - high-velocity spatter - tiny drops less than 1mm
- b. punch - low-velocity spatter - drops 4-10mm in diameter
- c. bat - medium-velocity spatter - drops 1-4mm in diameter

21. passive spatter - round drops that usually fall @ 90° angle, caused by gravity
arterial spray - impact spatter from a major artery that spurts out as the heart beats

22. luminol - produces light (luminescence) in darkened areas, fades quickly
bluestar - produces light even if it isn't completely dark.

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23. Tail points in the direction of movement



24. $\Delta = \sin^{-1} \left(\frac{\text{width of stain}}{\text{length of stain}} \right)$
↑ in mm.

25. narcotics - induces sleep & lowers body functions, such as blood pressure, pulse, & breathing. Relieves pain. Ex) opiates (opium, heroin, fentanyl)

hallucinogens - changes thought processes, perceptions, & moods Ex) marijuana, LSD, PSP, peyote

stimulants - speed up the central nervous system, increase alertness Ex) amphetamine, methamphetamine (meth & ice), cocaine, crack

depressants - slow down the central nervous system Ex) alcohol, barbituates, valium, huffing solvents

26. most harmful - schedule I - high potential for abuse
least harmful - schedule V - low potential for abuse
restricted medical use - schedule II

27. gender, weight, stomach contents, & medications

28. legal limit - BAC of .08

29. screening test - preliminary test used to reduce the # of possible identities of an unknown substance Ex) color test

confirmation test - single test that specifically identifies a substance

30. color tests

31. alcohol

32. marijuana - hallucinogen, schedule I, increased sense of well-being, care-free state of relaxation, more vivid senses, feeling of hunger, craving for sweets, subtle changes in thought formation & expression

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Blood Types

	get blood from	donate to
A+	O _± , A _±	A+, AB+
A-	O-, A-	A-, AB-
B+	O _± , B _±	B+, AB+
B-	O-, B-	B-, AB-
AB+	O _± , A _± , B _± , AB _±	AB+
AB-	O-, A-, B-, AB-	AB-
O+	O _±	A+, B+, AB+, O+
O-	O-	A-, B-, AB-, O-



maria B+ Bro B-